

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of automatically configuring media connections ~~when operating in forced speed and duplex mode~~, the method comprising:

connecting a first pair of connectors for data transmission ~~to a first pair of signals~~ and a second pair of connectors for data reception ~~to a second pair of signals~~ during a first state, and connecting the first pair of connectors for data reception ~~to the second pair of signals~~ and the second pair of connectors for data transmission ~~to the first pair of signals~~ during a second state; and

generating a controlling signal for selecting the first state and the second state, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.

~~holding the first state or the second state if operating in forced speed and duplex mode, a defined time has not expired and another end of a link can receive a transmitted signal.~~

Claim 2 (currently amended): The method of claim 1 wherein the first pair and second pair of connectors are in a node

interface device ~~the defined time is approximately four (4)~~
~~seconds.~~

Claim 3 (currently amended): The method of claim 1,
further comprising:

detecting link data transmission in one of the pairs
of connectors; and

inhibiting an alternating between the first state and
the second state in response to link data transmission that
is detected in one of the pairs of connectors wherein
~~Normal Link Pulses (NLPs) are transmitted during the~~
~~defined time.~~

Claim 4 (currently amended): The method of claim 1,
 wherein the controlling signal is received by a media
switch ~~an IDLE signal is transmitted during the defined~~
~~time.~~

Claim 5 (currently amended): The method of claim ~~1~~ 4,
~~further comprising:~~

~~preventing a transition between the first state and~~
~~the second state when a transmission is occurring in the~~
~~link as indicated by a T_pulse signal wherein the~~
controlling signal is generated by a scrambler.

Claim 6 (currently amended): An article of manufacture,
 comprising:

a machine-readable medium having stored thereon
 instructions to:

connect a first pair of connectors for data transmission ~~to a first pair of signals~~ and a second pair of connectors for data reception ~~to a second pair of signals~~ during a first state, and connect the first pair of connectors for data reception ~~to the second pair of signals~~ and the second pair of connectors for data transmission ~~to the first pair of signals~~ during a second state; and

generate a controlling signal for selecting the first state and the second state, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.

~~hold the first state or the second state if operating in forced speed and duplex mode, a defined time has not expired and another end of a link can receive a transmitted signal.~~

Claim 7 (previously cancelled)

Claim 8 (currently amended): An apparatus for automatically configuring media connections ~~when operating in forced speed and duplex mode~~, the apparatus comprising:

means for connecting a first pair of connectors for data transmission ~~to a first pair of signals~~ and a second pair of connectors for data reception ~~to a second pair of signals~~ during a first state, and connecting the first pair of connectors for data reception ~~to the second pair of signals~~ and the second pair of connectors for data transmission ~~to the first pair of signals~~ during a second state; and

means for generating a controlling signal for selecting the first state and the second state, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.

~~coupled to the connecting means, means for holding the first state or the second state if operating in forced speed and duplex mode, a defined time has not expired and another end of a link can receive a transmitted signal.~~

Claim 9 (currently amended): An apparatus for automatically configuring media connections ~~when operating in forced speed and duplex mode~~, the apparatus comprising:

a media switch configured to connect a first pair of connectors for data transmission ~~to a first pair of signals~~ and a second pair of connectors for data reception ~~to a second pair of signals~~ during a first state, and to connect the first pair of connectors for data reception ~~to the second pair of signals~~ and the second pair of connectors for data transmission ~~to the first pair of signals~~ during a second state; and

a processor coupled to the media switch and configured to generate a controlling signal for selecting the first state and the second state, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.
~~hold the first state or the second state if operating in forced speed and duplex mode, a defined time has not expired and another end of a link can receive a transmitted signal.~~

Claim 10 (original): The apparatus of claim 9, further comprising:

a scrambler coupled to the processor and configured to generate an output for use by the processor to determine a transition between the first state and the second state.

Claim 11 (currently amended): The apparatus of claim ~~11~~ 10, wherein the scrambler is an 11 bit shift register.

Claim 12 (currently amended): The apparatus of claim 9, wherein ~~the processor includes a signal detector to detect if the other end of the link can receive a transmitted signal.~~

Claim 13 (currently amended): The apparatus of claim 9, wherein the first pair and second pair of connectors are in a node interface device ~~further comprising:~~

~~a reset signal generator coupled to the processor and configured to reset the state to the first state.~~

Claim 14 (currently amended): The apparatus of claim 9, wherein the processor detects link data transmission in one of the pairs of connectors and inhibits an alternating between the first state and the second state in response to link data transmission that is detected in one of the pairs of connectors ~~the defined time is approximately four (4) seconds.~~

Claim 15 (currently amended): The apparatus of claim 9, wherein the controlling signal is received by the media switch ~~Normal Link Pulses (NLPs) are transmitted during the defined time.~~

Claim 16 (currently amended): The apparatus of claim 9, wherein ~~an IDLE signal is transmitted during the defined time.~~

Claim 17 (currently amended): The apparatus of claim 9, wherein the scrambler comprises a linear feedback shift register ~~processor is configured to prevent a transition between the first state and the second state when a transmission is occurring in the link as indicated by a T_pulse signal.~~

Claims 18-20 (previously cancelled)

Claim 21 (currently amended): A method for configuring network media connections, the method comprising:

in a first mode, permitting a first pair of connectors to receive data and a second pair of connectors to transmit data; ~~and~~

in a second mode, permitting the first pair of connectors to transmit data and the second pair of connectors to receive data; and

generating a controlling signal for selecting the first mode and the second mode, wherein the controlling signal has one of first and second values during each time

period, and wherein the values change in a pseudo-random manner.

Claim 22 (Previously presented): The method of claim 21, wherein the data includes link pulses in a packet format.

Claim 23 (Previously presented): The method of claim 21, wherein the data includes information in a packet format.

Claim 24 (Previously presented): The method of claim 21, wherein the first pair and second pair of connectors are in a node interface device.

Claim 25 (Previously presented): The method of claim 21, further comprising:

alternating between the first mode and the second mode.

Claim 26 (Previously presented): The method of claim 25, wherein the alternating between the first mode and the second mode occurs in a pseudo-random manner.

Claim 27 (Previously presented): The method of claim 21, further comprising:

detecting link data in one of the pairs of connectors;
and

inhibiting an alternating between the first mode and the second mode in response to detection of the link data.

Claim 28 (Previously presented): The method of claim 21, further comprising:

producing a controlling signal to set one of the first mode and the second mode.

Claim 29 (Previously presented): The method of claim 28, wherein the controlling signal includes one of a first value and a second value during each time period.

Claim 30 (Previously presented): The method of claim 29, wherein said each time period is constant and predetermined.

Claim 31 (Previously presented): The method of claim 29, wherein the time period comprises a pseudo-random number of time units.

Claim 32 (Previously presented): The method of claim 29, wherein said each time period is within a range of about 50 milliseconds and about 60 milliseconds.

Claim 33 (Previously presented): The method of claim 29, wherein the controlling signal changes between the first value and the second value in a pseudo-random manner.

Claim 34 (Previously presented): The method of claim 33, wherein the controlling signal changes between the first value and the second value during a time period between about 60 milliseconds to about 600 milliseconds.

Claim 35 (Previously presented): The method of claim 33, wherein the controlling signal changes between the first value and the second value during a time period between about 1 millisecond to about 60 milliseconds.

Claim 36 (Previously presented): The method of claim 33, wherein the controlling signal changes between the first value and the second value during a time period within a range between about 1 millisecond to about 600 milliseconds.

Claim 37 (Previously presented): The method of claim 28, wherein the controlling signal is received by a media switch.

Claim 38 (Previously presented): The method of claim 37, wherein the media switch includes a plurality of parallel transmitters and receivers.

Claim 39 (Previously presented): The method of claim 37, wherein the media switch includes a plurality of switch contacts.

Claim 40 (currently amended): An apparatus for configuring network media connections, the apparatus comprising:

a node interface;

a switch configured to permit a first pair of connectors in the node interface to receive data and a second pair of connectors in the node interface to transmit data in a first mode, and to permit the first pair of

connectors to transmit data and the second pair of connectors to receive data in a second mode; and
a processor configured to generate a controlling signal for selecting the first mode and the second mode, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.

Claim 41 (Previously presented): The apparatus of claim 40, wherein the data includes link pulses in a packet format.

Claim 42 (Previously presented): The apparatus of claim 40, wherein the data includes information in a packet format.

Claim 43 (Previously presented): The apparatus of claim 40, wherein the first pair and second pair of connectors are in a node interface device.

Claim 44 (Previously presented): The apparatus of claim 40, wherein the switch is configured to alternate between the first mode and the second mode.

Claim 45 (Previously presented): The apparatus of claim 44, wherein the switch is configured to alternate between the first mode and the second mode occurs in a pseudo-random manner.

Claim 46 (Previously presented): The apparatus of claim 40, further comprising:

a detector configured to inhibit an alternating between the first mode and the second mode in response to detection of link data in one of the pairs of connectors.

Claim 47 (Previously presented): The apparatus of claim 40, further comprising:

a signal generator configured to produce a controlling signal to set one of the first mode and the second mode.

Claim 48 (Previously presented): The apparatus of claim 47, wherein the controlling signal includes one of a first value and a second value during each time period.

Claim 49 (Previously presented): The apparatus of claim 48, wherein said each time period is constant and predetermined.

Claim 50 (Previously presented): The apparatus of claim 48, wherein the time period comprises a pseudo-random number of time units.

Claim 51 (Previously presented): The apparatus of claim 48, wherein said each time period is within a range of about 50 milliseconds and about 60 milliseconds.

Claim 52 (Previously presented): The apparatus of claim 48, wherein the controlling signal changes between the first value and the second value in a pseudo-random manner.

Claim 53 (Previously presented): The apparatus of claim 52, wherein the controlling signal changes between the first value and the second value during a time period between about 60 milliseconds to about 600 milliseconds.

Claim 54 (Previously presented): The apparatus of claim 52, wherein the controlling signal changes between the first value and the second value during a time period between about 1 millisecond to about 60 milliseconds.

Claim 55 (Previously presented): The apparatus of claim 52, wherein the controlling signal changes between the first value and the second value during a time period within a range between about 1 millisecond to about 600 milliseconds.

Claim 56 (Previously presented): The apparatus of claim 47, wherein the switch receives the controlling signal.

Claim 57 (Previously presented): The apparatus of claim 40, wherein the switch includes a plurality of parallel transmitters and receivers.

Claim 58 (Previously presented): The apparatus of 57, wherein the plurality of parallel transmitter and receivers comprises a first transmitter, a second transmitter, a first receiver, and a second receiver;

wherein the first receiver is configured to permit the first pair of connectors to receive data and the first

transmitter is configured to permit the second pair of connectors to transmit data in the first mode; and

wherein the second transmitter is configured to permit the first pair of connectors to transmit data and the second transmitter is configured to permit the second pair of connectors to receive data in the second mode.

Claim 59 (Previously presented): The apparatus of claim 40, wherein the switch includes a plurality of switch contacts.

Claim 60 (Previously presented): The apparatus of 59, wherein the plurality of switch contacts comprises a first contact, a second contact, a third contact, and a fourth contact;

wherein the first contact is configured to permit the first pair of connectors to receive data and the second contact is configured to permit the second pair of connectors to transmit data in the first mode; and

wherein the third contact is configured to permit the first pair of connectors to transmit data and the fourth contact is configured to permit the second pair of connectors to receive data in the second mode.

Claim 61 (currently amended): An apparatus for configuring network media connections, the apparatus comprising:

means for permitting a first pair of connectors in a node interface to receive data and a second pair of connectors in the node interface to transmit data in a first mode, and for permitting the first pair of connectors

to transmit data and the second pair of connectors to receive data in a second mode;

wherein the permitting means is configured to alternate between the first mode and the second mode; and means for generating a controlling signal for selecting the first mode and the second mode, wherein the controlling signal has one of first and second values during each time period, and wherein the values change in a pseudo-random manner.

Claim 62 (Previously presented): The apparatus of claim 61, wherein the permitting means is configured to alternate between the first mode and the second mode in a pseudo-random manner.

Claim 63 (Previously presented): The apparatus of claim 61, wherein the data includes link pulses in a packet format.

Claim 64 (Previously presented): The apparatus of claim 61, wherein the data includes information in a packet format.

Claim 65 (Previously presented): The apparatus of claim 61, wherein the first pair and second pair of connectors are in a node interface device.

Claim 66 (Previously presented): The apparatus of claim 61, wherein the permitting means is configured to inhibit an alternating between the first mode and the second mode

in response to detection of link data in one of the pairs of connectors.

Claim 67 (Previously presented): The apparatus of claim 61, wherein the permitting means is configured to produce a controlling signal to set one of the first mode and the second mode.

Claim 68 (Previously presented): The apparatus of claim 67, wherein the controlling signal includes one of a first value and a second value during each time period.

Claim 69 (Previously presented): The apparatus of claim 68, wherein said each time period is constant and predetermined.

Claim 70 (Previously presented): The apparatus of claim 68, wherein the time period comprises a pseudo-random number of time units.

Claim 71 (Previously presented): The apparatus of claim 68, wherein said each time period is within a range of about 50 milliseconds and about 60 milliseconds.

Claim 72 (Previously presented): The apparatus of claim 68, wherein the controlling signal changes between the first value and the second value in a pseudo-random manner.

Claim 73 (Previously presented): The apparatus of claim 72, wherein the controlling signal changes between the

first value and the second value during a time period between about 60 milliseconds to about 600 milliseconds.

Claim 74 (Previously presented): The apparatus of claim 72, wherein the controlling signal changes between the first value and the second value during a time period between about 1 millisecond to about 60 milliseconds.

Claim 75 (Previously presented): The apparatus of claim 72, wherein the controlling signal changes between the first value and the second value during a time period within a range between about 1 millisecond to about 600 milliseconds.

Claim 76 (Previously presented): The apparatus of claim 61, wherein the permitting means includes a plurality of parallel transmitters and receivers.

Claim 77 (Previously presented): The apparatus of 76, wherein the plurality of parallel transmitter and receivers comprises a first transmitter, a second transmitter, a first receiver, and a second receiver;

wherein the first receiver is configured to permit the first pair of connectors to receive data and the first transmitter is configured to permit the second pair of connectors to transmit data in the first mode; and

wherein the second transmitter is configured to permit the first pair of connectors to transmit data and the second transmitter is configured to permit the second pair of connectors to receive data in the second mode.

Claim 78 (Previously presented): The apparatus of claim 61, wherein the permitting means includes a plurality of switch contacts.

Claim 79 (Previously presented): The apparatus of 78, wherein the plurality of switch contacts comprises a first contact, a second contact, a third contact, and a fourth contact;

wherein the first contact is configured to permit the first pair of connectors to receive data and the second contact is configured to permit the second pair of connectors to transmit data in the first mode; and

wherein the third contact is configured to permit the first pair of connectors to transmit data and the fourth contact is configured to permit the second pair of connectors to receive data in the second mode.